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Title : Genetic Variability and Phylogeography of Antillean Manatee (Trichechus manatus) and Amazonian manatee (Trichechus inunguis) in Brazil using Mitochondrial DNA and Autosomal Microsatellites

Category : Conservation

Student : M.A./M.S.

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Abstract : The Antillean Manatee is considered today the most endangered marine mammal in Brazil remaining about 500 individuals along 4500 Km of coast. The Amazonian manatee is considered vulnerable by IUCN and it is still being hunted despite several preservation efforts. A total of 30 Trichechus manatus and 30 Trichechus inunguis samples were analyzed by sequencing of a 410 bp D-loop fragment of the mitochondrial DNA (mtDNA) and by typing of seven previously published microsatellite loci. A total of 18 mtDNA haplotypes were found for both species, 16 haplotypes for the Amazonian manatee and 2 haplotypes for the Antillean manatee. Among the haplotypes found 10 haplotypes for T. inunguis and one for T. manatus were described in our study. The Amazonian manatee has shown higher mtDNA diversity when compared with the Antillean manatee in Brazil. When using microssatelite data T. inunguis still shows higher genetic diversity than T. manatus in Brazil. The nuclear markers displayed higher genetic diversity when compared to the maternal lineage marker (mtDNA) particularly in T. manatus. Indeed, using both markers it was possible to detect lower genetic diversity of T. manatus probably due to small population size and endogamy. Microsatellite data will be likely more efficient in suggesting captivity and release management strategies to the Antillean manatee in Brazil. However we call attention to the importance for the use of different markers in the conservation and management of endangered species such as the manatees.